

October 2014,
Issue 38

Army Industrial Hygiene News and Regulatory Summary

Hazardous Substances

Special Interest Articles:

- [OSHA Dialogue](#)
- [BSL-3](#)
- [Ebola](#)
- [Medical Waste](#)
- [Temporary Workers](#)

DOEHRS Super Star

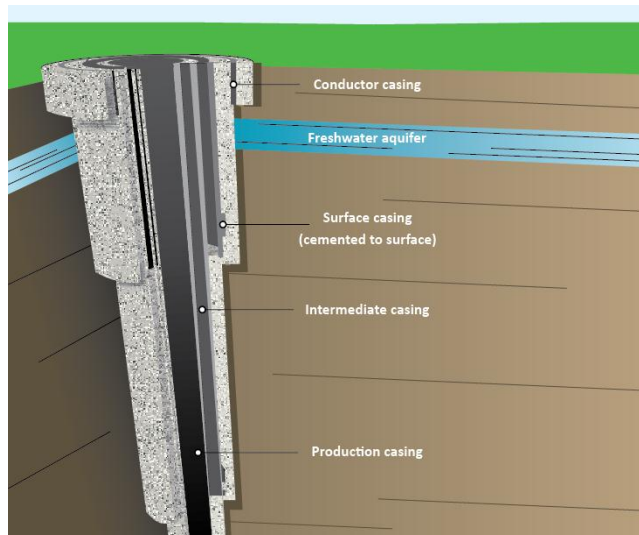
Fracking Workers Exposed to Dangerous Amounts of Benzene, Study Says

Some workers at oil and gas sites where fracking occurs are routinely exposed to high levels of benzene, a colorless gas that can cause cancer, according to a study by the National Institute for Occupational Safety and Health.

The agency, which is part of the Centers for Disease Control and Prevention, recommends that people limit their benzene exposure to an average of 0.1 of a part per million during their shift. But when NIOSH researchers measured the amount of airborne benzene that oil and gas workers were exposed to when they opened hatches atop tanks at well sites, 15 out of 17 samples were over that amount.

Read more:

<http://www.latimes.com/science/sciencenow/la-sci-sn-fracking-benzene-worker-health-20140910-story.html#page=1>



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A Novel Method for Assessing Respiratory Deposition of Welding Fume Nanoparticles



Welders are exposed to high concentrations of nanoparticles. Compared to larger particles, nanoparticles have been associated with more toxic effects at the cellular level, including the generation of more reactive oxygen species activity. Current methods for welding-fume aerosol exposures do not differentiate between the nano-fraction and the larger particles. The objectives of this work are to establish a method to estimate the respiratory deposition of the nano-fraction of selected metals

in welding fumes and test this method in a laboratory setting. Manganese (Mn), Nickel (Ni), Chromium (Cr), and hexavalent chromium (Cr(VI)) are commonly found in welding fume aerosols and have been linked with severe adverse health outcomes. Inductively coupled plasma mass spectrometry (ICP-MS) and ion chromatography (IC) were evaluated as methods for analyzing the content of Mn, Ni, Cr, and Cr(VI) nanoparticles in welding fumes collected with nanoparticle respiratory deposition (NRD) samplers

Read more: Journal of Occupational and Environmental Hygiene, Volume 11, Issue 12, 2014 (Available with AIHA membership)

Shift Workers Might Want to Skip High-Iron Foods at Night

Workers punching in for the graveyard shift might be better off avoiding high-iron foods at night so they don't disrupt the circadian clock in their livers, a new study suggests.

Disrupted circadian clocks are the reason that shift workers experience higher incidences of Type 2 diabetes, obesity and cancer, researchers believe. The body's primary circadian clock, which regulates sleep and eating, is in the brain. But other

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body tissues also have circadian clocks, including the liver, which regulates blood glucose levels.

Read more:

<http://ehstoday.com/health/shift-workers-might-want-skip-high-iron-foods-night>



OSHA Launches a National Dialogue on Hazardous Chemical Exposures and Permissible Exposure Limits in the Workplace



related illness caused by exposure to hazardous substances. The first stage of this dialogue is a request for information on the management of hazardous chemical exposures in the workplace and strategies for updating permissible exposure limits.

Read more:

<https://www.osha.gov/as/opa/quicktakes/qt101514.html#2>

OSHA is launching a national dialogue with stakeholders on ways to prevent work-

EPA Proposes to Remove 72 Chemicals from Approved Pesticide Inert Ingredient List

The EPA is requesting public comment on a proposal to remove 72 chemicals from its list of substances approved for use as inert ingredients in pesticide products.

EPA is taking this action in response to petitions by the Center for Environmental Health, Beyond Pesticides, Physicians for Social Responsibility and others. These groups asked the agency to issue a rule



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requiring disclosure of 371 inert ingredients found in pesticide products. EPA developed an alternative strategy designed to reduce the risks posed by hazardous inert ingredients in pesticide products more effectively than by disclosure rulemaking.

Read more:

<http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceeac8525735900400c27/3397554fa65588d685257d7a0061a300!OpenDocument>

Mold Management of Wetted Carpet



This study evaluated the growth and removal of fungi on wetted carpet using newly designed technologies that rely on physical principles of steam, heat, and fluid flow. Sixty samples of carpet were embedded with heat-treated house dust, followed by embedding, wearing with a hexapod, and wetting. Samples were inoculated using a liquid suspension of *Cladosporium sphaerospermum* prior to placement over a water-saturated foam pad. Incubation times were 24 hr, 7 days, and 30 days. Cleaning was performed using three methods; high-flow hot water extraction, hot water and detergent, and steam. Fungal loading increased from approximately 1500 colony forming units

per area (CFU/cm²) in 24 hr to a maximum of approximately 10,200 CFU/cm² after 7 days with a slight decline to 9700 CFU/cm² after 30 days incubation. Statistically significant differences were found among all three methods for removal of fungi for all three time periods ($p < 0.05$). Steam-vapor was significantly better than the alternative methods ($p < 0.001$) with over 99% efficiency in mold spore decline from wetted carpet after 24 hr and 30 days, and over 92% efficiency after 7 days. The alternative methods exhibited lower efficiencies with a decline over time, from a maximum of 82% and 81% at 24 hr down to 60% and 43% at 30 days for detergent-hot water and high-flow, hot water extraction, respectively. The net effect of the mold management study demonstrates that while steam has a consistent fungal removal rate, the detergent and high-flow, hot water methods decline in efficiency with increasing incubation time.

Read more: Journal of Occupational and Environmental Hygiene, Volume 11, Issue 12, 2014 (Available with AIHA membership)

NIOSH Study Finds Lack of Adherence to Safe Handling Guidelines for Administration of Antineoplastic Drugs

A new article from NIOSH found that recommended safe handling practices for workers who administer antineoplastic drugs in healthcare settings are not always followed. This study will be published in the November issue of the Journal of Occupational and Environmental Hygiene and is currently available as an e-pub.

Results are derived from the 2011 Health and Safety Practices Survey of Healthcare Workers, the largest federally-sponsored survey of healthcare workers in the U.S. which addresses safety and health practices relative to use of hazardous chemicals. This paper presents findings on current administrative and engineering control practices, personal protective equipment (PPE), and barriers to using recommended PPE during administration of antineoplastic drugs by nearly 2,100 oncology nurses and

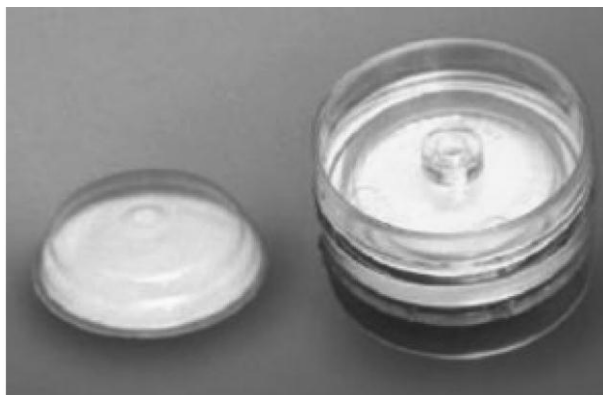
other healthcare personnel who completed a module addressing antineoplastic drug administration.



Read more:

<http://www.cdc.gov/niosh/updates/upd-9-26-14.html>

A Comparison of the Closed-Face Cassette at Different Orientations While Measuring Total Particles



The current method for sampling aerosols using the 37-mm closed-face cassette (CFC) sampler is based on the orientation of the cassette at $\sim 45^\circ$ from horizontal. There is some concern as to whether this method is appropriate and may be underestimating exposures. An alternative orientation at $\sim 0^\circ$ (horizontal) has been discussed. This research compared the CFC's orientation at 45° from horizontal to the proposed orientation at horizontal, 0° in a controlled laboratory setting. The particles used in this

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study were fused alumina oxide in four sizes, approximately 9.5 μm , 12.8 μm , 18 μm , and 44.3 μm in aerodynamic diameter. For each test, one aerosol was dispersed in a wind tunnel operating at 0.2 m/s with samplers mounted in the breathing zone of a rotating mannequin. A sampling event consisted of four pairs of samplers, placed side by side (one pair at 45° and another at 0° cassette orientation), and exposed for a period of 45 minutes. A total of twelve sampling events, three sample events per particle size, were conducted with a total of ninety-four samples collected. Mass concentration measurements were compared to assess the relationship between the sampler orientations of the cassettes. In addition, the relationship

between the mass collected on the cassette filter and on the interior walls of the cassette was also assessed. The results indicated that there was no significant difference between the measured concentrations based on the orientation of the CFC's. The amount of mass collected on the interior walls of the cassettes were relatively low (<5%) compared to expected (up to 100%) wall losses for both orientations.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 22 Oct 2014 (Available with AIHA membership)

Young Shooters at Risk: Lead Poisoning

The youngsters knew their sport could be dangerous, even deadly.

But for the junior team at the Vancouver (Wash.) Rifle and Pistol Club, the peril that emerged from their sport didn't come from a stray bullet.

It came from lead.

In 2010, blood tests revealed that 20 youths had been overexposed to the poisonous metal after shooting in the club's dirty, poorly ventilated range."



Read more:
<http://projects.seattletimes.com/2014/load-ed-with-lead/3/>

Radiation

Engineers Build Ultrasmall Organic Laser

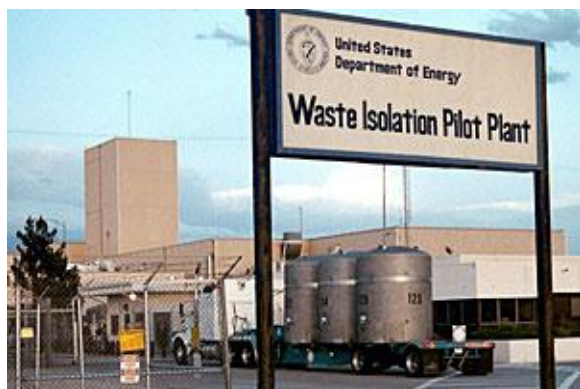
Researchers have made the tiniest organic laser reported to date (ACS Nano 2014, DOI: 10.1021/nn504444g). The 8- μ m-long device, which looks like a suspended bridge riddled with holes, is carved into a silicon chip coated with an organic dye. Integrated into microprocessor chips, such tiny lasers could one day speed up computers by shuttling data using light rather than

electrons. They also could be valuable for sensors and lab-on-a-chip devices.

Read more:

<http://cen.acs.org/articles/92/web/2014/09/Engineers-Build-Ultrasmall-Organic-Laser.html>

U.S. Planning Expansion of Nuclear Production in the Face of Safety Concerns



Despite the release of a damning report regarding the 14 February nuclear waste accident at the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico by the U.S. Department of Energy (DOE), the

government is planning ramped-up production of nuclear weapons cores, a move which is raising red flags for those calling for reform of nuclear production and storage procedures

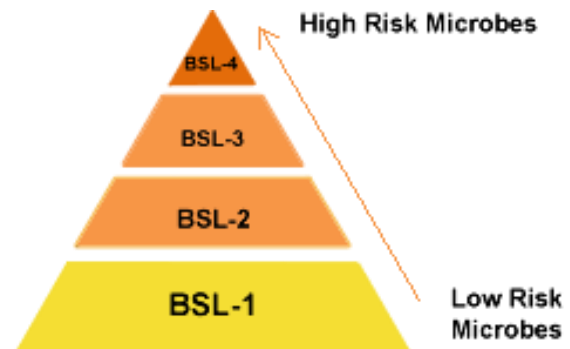
Read more:

<http://www.homelandsecuritynewswire.com/dr20141024-u-s-planning-expansion-of-nuclear-production-in-the-face-of-safety-concerns>

Ventilation

BSL-3 and ABSL-3 HVAC System Requirements - Part I

HVAC systems play a critical role in control of hazards in a bio-containment facility. Biosafety Laboratories (BSL)-3 and Animal Biosafety Laboratories (ABSL)-3 animal facilities shall comply with all requirements for BSL-2 laboratories and ABSL-2 animal facilities as described in the DRM Chapter 6 Mechanical Systems Design. This article includes additional requirements to be included in level-3 bio-containment laboratories and bio-containment animal facilities. Design of BSL-3 and ABSL-3 laboratories shall be reviewed and approved by NIH Division of Technical Resources (DTR) and NIH Division of Occupational Health and Safety (DOHS). This article is based on DRM Section 6.6 Biosafety Level-3 and Animal Biosafety Level-3 Bio-containment. Part 1 covers the contents up to DRM 6.6.9 Air Filtration. Part 2 will cover the remaining subjects in DRM Section 6.6.



Read more:

http://orf.od.nih.gov/PoliciesAndGuidelines/Documents/News%20to%20Use%20PDF%20Files/BSL-3%20ABSL-3%20HVAC%20System%20Requirements%20-%20Part%20I%20II%20June%202014%20News%20to%20Use%20_508.pdf

BSL-3 and ABSL-3 HVAC System Requirements – Part II

Continuation of the NIH article about the design of biomedical research laboratories and animal facilities.

Read more:

http://orf.od.nih.gov/PoliciesAndGuidelines/Documents/News%20to%20Use%20PDF%20Files/BSL-3%20ABSL-3%20HVAC%20System%20Requirements%20-%20Part%20II%20II%20July%202014%20News%20to%20Use%20_508%20.pdf

[20Files/BSL-3%20ABSL-3%20HVAC%20System%20Requirements%20-%20Part%20II%20II%20July%202014%20News%20to%20Use_508%20.pdf](http://orf.od.nih.gov/PoliciesAndGuidelines/Documents/News%20to%20Use%20PDF%20Files/BSL-3%20ABSL-3%20HVAC%20System%20Requirements%20-%20Part%20II%20II%20July%202014%20News%20to%20Use%20_508%20.pdf)

PPE

CDC Releases "Tightened" Guidance for Healthcare Workers on PPE for Ebola



The CDC issued detailed guidance on personal protective equipment to be used by healthcare workers entering the hospital room of an Ebola patient, including information on the types of PPE to be used and the procedures for donning and doffing PPE. According to CDC, the new guidance is

based on lessons learned from the recent experiences of U.S. hospitals caring for Ebola patients and emphasizes the importance of training, practice, competence, and observation of workers in correct donning and doffing of PPE.

Read more:

<https://www.aiha.org/publications-and-resources/TheSynergist/Industry%20News/Pages/CDC-Releases-Tightened-Guidance-for-Healthcare-Workers-on-PPE-for-Ebola.aspx>

Noise

Screening Questions Fail To Identify Teens at Risk for Hearing Loss

Subjective screening questions do not reliably identify teenagers who are at risk for hearing loss, according to researchers at Penn State College of Medicine. The results suggest that objective hearing tests should be refined for this age group to replace screening questions.



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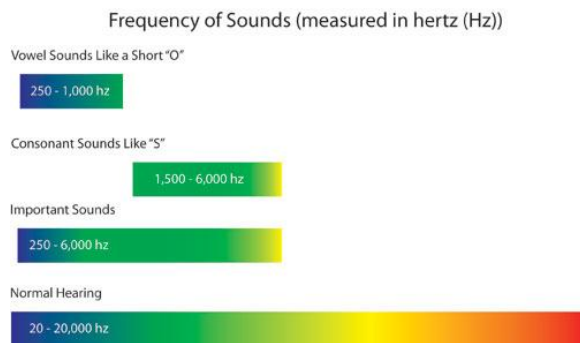
The American Academy of Pediatrics, in partnership with the Bright Futures children's health organization, sets standards for pediatric preventive care. The AAP recommends screening adolescents with subjective questions and then following up with objective hearing tests for those found to be at high risk of hearing loss. However, the screening questions

were not specifically developed for children or adolescents. Studies also show that adolescents are poor self-reporters of hearing status.

Read more

<http://www.sciencedaily.com/releases/2014/10/141021125630.htm>

Auditory System: The Ruffling Effect of Rumble



Barely perceptible low-frequency signals nevertheless activate measurable responses in our auditory circuits. Neurobiologists have now characterized the remarkable impact of low-frequency sounds on the inner ear.

The human auditory system appears to be poorly adapted to the perception of low-frequency sound waves, as hearing thresholds become markedly higher for frequencies lower than about 250 Hz. Yet sensory cells do react to pressure waves with frequencies below 100 Hz, as revealed by the fact that such signals actually evoke detectable micromechanical responses in nerve cells in the inner ear, as LMU neurobiologists now report in the journal Royal Society Open Science.

Read more:

<http://www.sciencedaily.com/releases/2014/10/141002092404.htm>

Preventive Medicine

Free Ebola Online Courses Available from UNMC, Nebraska Medicine

The University of Nebraska Medical Center and its primary clinical partner, Nebraska Medicine, are launching two free online Ebola education courses. The downloadable courses will provide easy-to-understand



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instruction and resources for healthcare professionals, as well as the general public.

“The protocols and procedures we have refined here at UNMC and Nebraska Medicine are helping to keep healthcare workers safe nationwide while dealing with potential and diagnosed Ebola cases,” says the chancellor of UNMC and chairman of the Nebraska Medicine advisory board. “We want to share our expertise with the world.”

The two courses, The Nebraska Ebola Method for Clinicians and The Nebraska Ebola Method for General Public, provide instruction and information through videos and printable documents.

Read more:

<http://www.infectioncontrolday.com/news/2014/10/free-ebola-online-courses-available-from-unmc-nebraska-medicine.aspx>

OTC Pain Medications More Effective for Acute Pain: NSC



A new white paper from the NSC, Evidence for the efficacy of pain medications, compiles research showing the combination of over-the-counter pain medications

ibuprofen and acetaminophen are more effective at treating acute pain than opioid painkillers, according to its news release.

This study coincides with the DEA's reclassification of hydrocodone combination products, such as Vicodin, from the Schedule III to Schedule II drugs. This makes it harder for doctors to prescribe the drugs, and patients can't refill their prescription without seeing their doctor.

Read more:

<http://ohsonline.com/articles/2014/10/07/over.aspx?admgarea=news>

New Estimates Put Price of US Foodborne Disease at \$15.6 Billion Per Year

Costs associated with foodborne illnesses in the United States total more than \$15.6

billion annually, according to a data product released Oct 7 by the US Department of

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Agriculture's (USDA's) Economic Research Service containing updated estimates.

The pathogen associated with the greatest cost is Salmonella, accounting for \$3.7 billion each year. Next in order are Toxoplasma gondii at \$3.3 billion and Listeria at \$2.8 billion.

Read more:

<http://www.cidrap.umn.edu/news-perspective/2014/10/news-scan-oct-09-2014>



CDC Revises Interim Guidance for Monitoring, Movement of Persons with Potential Ebola Virus Exposure



The CDC issued a revised Interim U.S. Guidance for Monitoring and Movement of Persons with Ebola Virus Exposure. This guidance provides new information public health authorities and other partners can use to determine appropriate public health actions based on Ebola exposure risk factors and clinical presentation. It also includes

criteria for monitoring exposed people and for when movement restrictions may be needed.

In determining the right approach, the CDC says it has put the health and safety of Americans first and foremost, and its deliberations have been informed by the agency's most knowledgeable and experienced public health and homeland security professionals.

Read more:

<http://www.infectioncontrolday.com/news/2014/10/cdc-revises-interim-guidance-for-monitoring-movement-of-persons-with-potential-ebola-virus-exposure.aspx>

New Guide Seeks Better Collaboration at Animal-Human Health Interface

A newly released guide developed by the World Organization for Animal Health (OIE) and the World Health Organization (WHO) aims to strengthen the capacity worldwide for collaboration and coordination between national public health and national animal health authorities.

More than 60% of infectious diseases in humans are caused by zoonotic pathogens transmitted by domestic or wild animals, according to an OIE press release today. New and emerging pathogens pose ever-enlarging threats to human and animal health, food safety and security, poverty reduction, and biodiversity, says the release, so "preventing diseases at their

animal source is crucial for protecting human health."



Read more:

<http://www.cidrap.umn.edu/news-perspective/2014/10/news-scan-oct-03-2014>

US EV-D68 Cases Reach 1,035 In 47 States



With 37 new cases of enterovirus 68 (EV-D68) confirmed, the US total has reached

1,035, the CDC reported, up from 998 on Oct 24.

Almost all the cases, which involve severe respiratory illness, have been in children, many of whom have asthma, the CDC said. They have occurred in 47 states and Washington, DC, which is the same as on Oct 24.

Cases were first reported in mid-August. The CDC expects numbers to decline by late fall.

Of the more than 2,000 specimens the CDC has assayed, about half have tested positive

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for EV-D68, and about a third have tested positive for a different enterovirus or a rhinovirus.

Read more: (scroll down to the third heading)
<http://www.cidrap.umn.edu/news-perspective/2014/10/news-scan-oct-27-2014>

New Web Page on Protecting Workers from Exposure to Ebola Virus

To assist workers and employers, OSHA has launched a new Ebola Web page that provides information about the disease and how to protect workers. It includes sections on the disease itself, hazard recognition, medical information, standards for protecting workers, control and prevention, and additional resources. The page provides protection information for health care workers; airline and other travel industry personnel; mortuary and death care workers; laboratory workers; border, customs and quarantine workers; emergency responders; and workers in other critical sectors. It also links to the CDC and NIOSH Web pages on Ebola.



Read more:
<https://www.osha.gov/as/opa/quicktakes/qt101514.html#3>

Environmental Health

Study Shows Demand for LEED-Credentialed Professionals Is Growing



A study of job postings from across the United States shows demand for LEED-credentialed professionals grew 46 % over a 12-month period, the U.S. Green Building Council (USGBC) recently announced.

The study, conducted by USGBC education partner Pearson using data provided by Burning Glass, found 9,033 job postings

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requiring a LEED credential from March 2013 to February 2014. The positions were in fields including mechanical, electrical, and civil engineering; construction management; architecture; software development; sales management; property management; and interior design.

Read more: <http://hpac.com/archive/study-shows-demand-leed-credentialed-professionals-growing>

The Navigation Guide: Systematic Review for the Environmental Health Sciences

For decades the field of clinical science has used systematic review methods to integrate research findings and present the results in a consistent and unbiased manner to support health-protective recommendations. An interdisciplinary team of clinical and environmental health scientists has now adopted principles of systematic review and applied them to the environmental health sciences in a framework called the Navigation Guide.^{1,2} In this issue of EHP a case study on the widespread environmental contaminant perfluorooctanoic acid (PFOA) puts the guide through its paces to test the process itself and to judge the strength and quality of evidence regarding the effects of PFOA on fetal growth.^{3,4,5}



Read more: <http://ehp.niehs.nih.gov/122-A283/>

Ergonomics

7 Tips for Accommodating Your Older Staffers

Mary loved her job as a recreational therapist in a skilled nursing facility. Her co-workers marveled at her ability to assess

the needs of residents and propose exactly the right activity for a patient recovering from a brain injury, stroke or other trauma.

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Her 30-plus years of experience in all manner of expressive arts therapies helped her serve her patients well. She worked efficiently and effectively with quiet compassion.

Read more:

<http://www.govexec.com/excellence/promising-practices/2014/10/7-tips-accommodating-your-older-staffers/97541/>



Here's a Tip that Can Help You Avoid Chronic Lower-Back Pain



Only headaches and colds are more common than back pain.

According to an orthopedic surgeon at Wake Forest Baptist Medical Center in Winston-Salem, N.C., the best way to prevent lower-back pain is to remember this simple mantra: "Arch is good, flat is bad."

Read more:

<http://ehstoday.com/safety/here-s-tip-can-help-you-avoid-chronic-lower-back-pain>

Lower-back pain is the No. 1 cause of job-related disability in the United States, and one of the leading causes of lost workdays.

Safety

Where to Find the Government's Happiest Employees

Federal employees overall are about as happy with their jobs and agencies as they were last year, according to the 2014

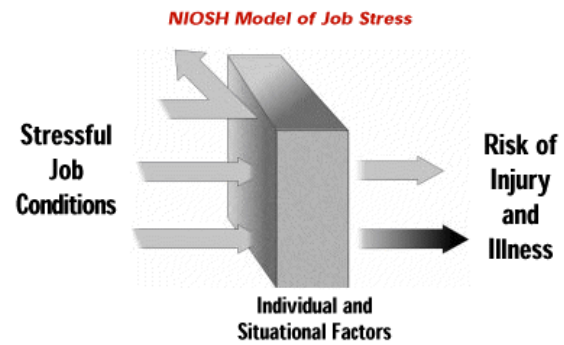
government wide survey assessing everything from trust in senior leadership (down) to satisfaction with pay (up).

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Morale isn't exactly off the charts in many agencies. But things could be worse, especially considering sequestration, last year's government shutdown and scandals at the Internal Revenue Service, Veterans Affairs Department and Secret Service. The 2014 Federal Employee Viewpoint Survey, released on Friday, showed 59% of respondents overall reported being satisfied with their jobs and working environment.

Read more:

<http://www.govexec.com/management/20>



14/10/where-find-governments-happiest-employees/97385/?oref=relatedstories

New NIOSH Resource Provides Quick Tips to Help Truckers Get a Good Night's Sleep



The long hours and demanding nature of driving a truck can make it a hazardous occupation; fatigue is one of the main occupational hazards commercial drivers face. A new resource available in time for Truck Driver Appreciation Week from the NIOSH provides truck drivers

with tips for improving sleep quality to improve their health and help reduce the risk for drowsy driving and vehicle crashes.

According to the Bureau of Labor Statistics, in 2009 truck drivers experienced 16.8% of all transportation-related fatalities and 2.04% of the nonfatal injuries requiring days away from work, even though they only made up 1.0% of the U.S. workforce.

Read more:

<http://www.cdc.gov/niosh/updates/upd-09-15-14.html>

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Electrical Hazard Risk Assessments

Safety assessments of electrical equipment and systems should be a planned and scheduled event to help ensure a safe and reliable electrical system. Regularly scheduled assessments are used to identify unsafe equipment; inadequate or non-existent electrical equipment maintenance programs; unsafe employee work practices; compliance or non-compliance with regulations and standards; personal protective equipment (PPE) availability, condition, and usage by employees; and training programs for qualified and unqualified personnel. Unfortunately the assessment is sometimes triggered by an unplanned incident such as an electrical shock injury, an arc flash burn, an unexpected shutdown, unexplained equipment damage, or an inoperative emergency power system. The results of an electrical hazard risk assessment constitutes one of the most important factors in the selection of personal protective equipment (PPE); developing or updating training programs; and developing or revising an

electrical safety program, along with safe work procedures.



Read more:

<http://ohsonline.com/articles/2014/10/08/electrical-hazard-risk-assessments.aspx?admgarea=news>

NTSB: Prohibit Hands-Free Phone Use by Commercial Drivers



The National Transportation Safety Board issued its report Oct. 22 on the probable cause of a May 28, 2013, truck/train collision at a private grade crossing located in Rosedale, Md. The collision involved a CSX Transportation Co. freight train and a truck driven by the owner of Alban Waste LLC on a private road leading to a recycling center. Fifteen rail cars derailed, including

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three that contained hazardous materials that leaked, resulting in an explosion and a fire. The truck driver was seriously injured but survived, and he admitted to investigators that he was talking on a hands-free cell phone at the time of the collision.

Read more:

<http://ohsonline.com/articles/2014/10/23/prohibit-hands-free.aspx?admgarea=news>

Winter Hazards in Manufacturing

OSHA general regulations mandate that every employer must provide a safe and secure workplace for its employees. Most manufacturing organizations do an excellent job of removing hazards from the work environment, but nonetheless, OSHA issued more than 2,500 citations from October 2012 through September 2013. Some citations occur because manufacturers miss hazards caused by the change in seasons. Winter is especially problematic because it brings inherent hazards of its own that create complications in the production areas.



Read more:

<http://ohsonline.com/articles/2014/10/01/winter-hazards-in-manufacturing.aspx?admgarea=news>

Societies Issue Recommendations on Processing Biohazardous Medical Waste



Prompted by questions about how to correctly handle Ebola-contaminated biohazardous medical waste, five societies have issued a joint advisory statement to provide guidance to personnel and health care organizations. The statement from the Association for the Advancement of Medical Instrumentation, Association of Surgical Technologies, Association of periOperative Registered Nurses,

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Association for Professionals in Infection Control and Epidemiology, and the International Association of Healthcare Central Service Materiel Management addresses the use of sterilizers for processing biohazardous waste in a health care facility.

Read more:

<http://ohsonline.com/articles/2014/10/27/societies-issue-recommendations-on-processing-biohazardous-medical-waste.aspx?admgarea=news>

Preventing Danger at the Loading Dock

Unfortunately, injuries and fatalities can and do happen on loading docks every year. Some of the most common causes of dock accidents involve the semi-trailer leaving the dock unexpectedly, which can result in the lift truck falling to the ground. Common causes of dock accidents include early departure, when a truck driver mistakenly drives away while a lift-truck operator is entering, leaving or still inside the trailer. Another cause is trailer creep. A trailer can move substantially under the weight of a lift truck entering and exiting a trailer.



Read more:

<http://ehstoday.com/safety/preventing-danger-loading-dock>

Emergency Preparedness & Response

Strategic Benefits of Personal Emergency ID



After saying goodbye to his wife that damp, cloudy Tuesday, Bob got into his truck, sipped his coffee, and started to drive to work in a neighboring town about half an hour away. To Bob, it seemed like a pretty average, normal working day, but it was far from it.

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He had recently started a contract job on a fairly large site with a range of work activities and with co-workers he hardly knew. He sort of knew their names and their favorite football team, but not a great deal else. All in all, though, they were not a bad crew.

Read more:

<http://ohsonline.com/articles/2014/10/01/strategic-benefits-of-personal-emergency-id.aspx?admgarea=news>

DOT Agencies, USFA Produce Best Practices Document for Crude Oil Emergencies

The Pipeline and Hazardous Materials Safety Administration, partnering with DOT's Federal Railroad Administration and the U.S. Fire Administration's National Fire Academy, have developed a best practices document for emergency responders who are responding to crude oil transportation incidents. They have produced the Commodity Preparedness and Incident Management Reference Sheet, which lists incident management best practices for these emergency responses.



[crude-oil-emergencies.aspx?admgarea=news](http://ohsonline.com/articles/2014/10/09/crude-oil-emergencies.aspx?admgarea=news)

Read more:

<http://ohsonline.com/articles/2014/10/09/>

CSB Calls for Changes in Emergency Response Guidebook



The U.S. Chemical Safety Board has filed comments urging the U.S. Department of Transportation to make changes in its Emergency Response Guidebook, known as the ERG and frequently used by firefighters. CSB said DOT should clarify how emergency responders deal with chemical accidents at fixed facilities, as well as transportation-related incidents.

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Incidents at fixed facilities involve larger amounts of hazardous materials, and directions for handling transportation emergencies may not be applicable to those at fixed facilities, the comments point out.

Read more:

<http://ohsonline.com/articles/2014/10/09/csb-calls-for-changes-in-emergency-response-guidebook.aspx?admgarea=news>

Deployment Health

Army Isolates General and Soldiers Returning from West Africa

The two-star Army general and members of his staff who led the initial military efforts against Ebola in West Africa have been isolated on post as they returned to Italy, the Pentagon said Monday.

Maj. Gen. Darryl Williams, the commander of U.S. Army Africa, and 11 soldiers on his staff were taken to a building on the U.S. base at Vicenza, Italy, where they will be held in isolation for as long as 30 days on orders of the Department of the Army, the Pentagon said.

[and-soldiers-returning-from-west-africa.html?comp=7000023467983&rank=1](http://www.military.com/daily-news/2014/10/27/army-isolates-general-and-soldiers-returning-from-west-africa.html?comp=7000023467983&rank=1)



Read more: [http://www.military.com/daily-news/2014/10/27/army-isolates-general-](http://www.military.com/daily-news/2014/10/27/army-isolates-general)

Natick Studies Link between Body Armor Fit, Performance



Body armor has saved countless lives in Iraq and Afghanistan, but an Improved Outer Tactical Vest, or IOTV, that doesn't fit properly can actually hinder a Soldier's performance in combat.

That's why members of the Anthropology and Human Factors Teams at the Natick Soldier Research, Development and

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Engineering Center are conducting a range-of-motion and encumbered anthropometry study to better understand the link between fit and performance with the IOTV Gen III.

Read more:

http://www.army.mil/article/135861/Natick_studies_link_between_body_armor_fit_performance/

Army Develops App to Determine Body's Water Needs

Clean, potable water is one thing the world universally cannot live without. It hydrates. It cleans. It keeps us alive and well. No doubt, water is very valuable to Soldiers.

However, as many mission planners know, water planning can be a nightmare. Too much water can strain already heavy combat loads, perhaps forcing some Soldiers to pack too little in favor of a lighter pack. When Soldiers don't have enough water, dehydration could set in, decreasing performance and increasing the risk of serious heat illnesses.

Read more:

http://www.army.mil/article/136391/Army_develops_app_to_determine_body_s_water_needs/



Nanotechnology

Report to the President and Congress on the Fifth Assessment of the National Nanotechnology Initiative



The Federal Government has invested over \$20 billion in nanotechnology

research over the past 13 years, yielding fruitful work that has successfully helped create the building blocks of nanoscience. Today, the President's Council of Advisors on Science and Technology (PCAST)

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released the Report to the President and Congress on the Fifth Assessment of the National Nanotechnology Initiative (NNI). The report, PCAST's fifth review of the NNI, concludes that the nanotechnology community is at an important turning point.

Read more:

<http://www.nano.gov/node/1242>

"Nanojuice" Could Diagnose Gastrointestinal Illnesses

Researchers at the University of Buffalo (UB) have developed what they're calling a "nanojuice", which when ingested enables doctors to see clear images of the small intestine in real time.

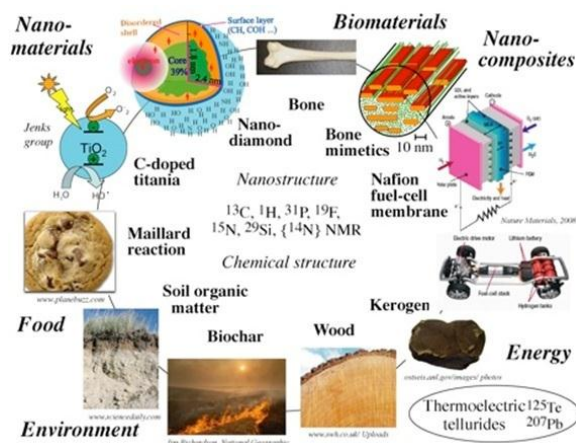
The novel medical imaging technique promises better diagnosis of a variety of gastrointestinal illnesses, including Crohn's disease and celiac disease. Other medical imaging techniques used to examine the small intestine, such as X-rays, magnetic resonance imaging, and ultrasound, have drawbacks in terms of safety, accessibility to the organ, and an inability to produce clear images.



Read more:

<http://spectrum.ieee.org/nanoclast/biomedical/imaging/nanojuice-enables-tool-for-diagnosing-gastrointestinal-illnesses>

A Strategy for Grouping of Nanomaterials Based on Key Physico-Chemical Descriptors as a Basis for Safer-by-Design NMs



There is an urgent need to establish a fundamental understanding of the mechanisms of nanomaterial (NM) interaction with living systems and the environment, in order for regulation of NMs to keep pace with their increasing industrial application. Identification of critical properties (physicochemical descriptors) that confer the ability to induce harm in biological systems is crucial, enabling both prediction of impacts from related NMs (via

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quantitative nanostructure–activity relationships (QNARs) and read-across approaches) and development of strategies to ensure these features are avoided or minimised in NM production in the future (“safety by design”). A number of challenges to successful implementation of such a strategy exist, including: (i) the lack of widely available systematically varied libraries of NMs to enable generation of sufficiently robust datasets for development and validation of QNARs; (ii) the fact that many physicochemical properties of pristine NMs are inter-related and thus cannot be varied systematically in isolation from others (e.g. increasing surface charge may impact on hydrophobicity, or changing the shape of a NM may introduce defects or alter the atomic configuration of the surface); and (iii) the effect of ageing, transformation and

biomolecule coating of NMs under environmental or biological conditions.

A novel approach to identify interlinked physicochemical properties, and on this basis identify overarching descriptors (axes or principle components) which can be used to correlate with toxicity is proposed. An example of the approach is provided, using three principle components which we suggest can be utilised to fully describe each NM, these being the intrinsic (inherent) properties of the NM, composition (which we propose as a separate parameter) and extrinsic properties (interaction with media, molecular coronas etc.).

Read more:

<http://www.sciencedirect.com/science/article/pii/S1748013214000590>

Regulatory Research & Industrial Hygiene Professional News

AIHA

OSHA Publishing RFI on Updated PELs

Is it possible OSHA will get something done on the thorny issue of antiquated permissible exposure limits (PELs) during Assistant Secretary Dr. David Michaels' tenure? Perhaps; the agency will publish a 205-page request for information on Oct. 10 that seeks stakeholder comments on

how to move forward, with most of the RFI asking about a variety of approaches

Read more:

<http://ohsonline.com/articles/2014/10/09/osha-publishing-rfi-on-updated-pels.aspx?admgarea=news>

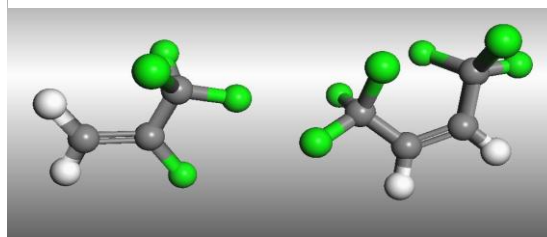
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Call for Public Comments: New OARS-WEEL

Toxicology Excellence for Risk Assessment (TERA) is now accepting public comments on the OARS-WEEL for the chemical cis 1,1,1,4,4,4-hexafluoro-2-butene (HFO-1336mzz-Z). According to TERA, HFO-1336mzz-Z is a foam-blowing agent, refrigerant, fire extinguishant, and solvent. The recommended WEEL value for HFO-1336mzz-Z is 500 ppm (3,350 mg/m³) as an 8-hour time-weighted average.

Comments are due no later than Tuesday, Nov. 4. More information on the comment process, including a PDF of the WEEL, is available on TERA's website

Cis 1,1,1,4,4,4-hexafluoro-2-butene

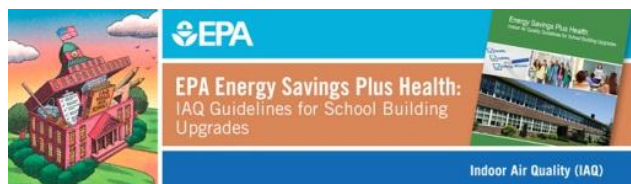


Read more:

<https://www.aiha.org/publications-and-resources/TheSynergist/AIHANews/Pages/Call-for-Public-Comments-New-OARS-WEEL.aspx>

EPA

New EPA Guidance Helps Schools Protect and Improve IAQ during Renovations



EPA released new guidance to help protect and improve indoor air quality (IAQ) in school buildings during upgrades, particularly building renovations and energy efficiency upgrades. The guidance is written to help risk managers, school facility managers, building operators, and others

prevent and control potentially harmful conditions during building renovations and construction activities that can create dust, introduce new contaminants and contaminant pathways, create or aggravate moisture problems, and result in inadequate ventilation of occupied spaces. The document addresses 23 priority issues and contaminants identified by EPA to be commonly associated with building upgrades, including moisture control and mold, asbestos, polychlorinated biphenyls (PCBs), exhaust ventilation, protecting IAQ

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during construction, and job-site safety. Other issues covered in the document are lead, environmental tobacco smoke, building products and materials emissions, and outdoor air ventilation.

Read more:

<https://www.aiha.org/publications-and-resources/TheSynergist/Industry%20News/Pages/New-EPA-Guidance-Helps-Schools-Protect-and-Improve-IAQ-during-Renovations.aspx>

EPA Makes Preliminary Determination to Regulate Strontium in Drinking Water

The U.S. Environmental Protection Agency has made a preliminary determination to regulate strontium in the nation's drinking water. Strontium is a naturally occurring element that, at elevated levels, can impact bone strength in people who do not consume enough calcium.

A regulatory determination is a formal decision on whether EPA should initiate a rulemaking process to regulate a specific contaminant. The Safe Drinking Water Act requires that every five years, EPA develop a contaminant candidate list and then make a regulatory determination for at least five contaminants on the list.



Read more:

<http://yosemite.epa.gov/opa/admpress.nsf/596e17d7cac720848525781f0043629e/327f339e63facb5a85257d77005f4bf9!OpenDocument>

BLS

Census of Fatal Occupational Injuries Commemorates 20 Years of Occupational Safety and Health Data

The Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (CFOI) is the federal government's preeminent source for data on fatal injuries in the workplace.

CFOI publishes demographic and employment information about deceased workers (referred to as "decedents" by

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CFOI) as well as detailed data on the fatal incidents.

On October 1, 1993, CFOI published the first comprehensive nationwide data on fatal occupational injuries in the United States. These data, which recorded fatal injuries for calendar year 1992, marked the beginning of a data series that has been used by governmental agencies, safety and health entities, academic institutions, and others to identify trends in workplace deaths and to work towards eliminating future work-related fatal injuries.



Read more:

<http://www.bls.gov/opub/btn/volume-3/census-of-fatal-occupational-injuries-commemorates-20-years.htm>

OSHA

NIOSH and OSHA Announce Best Practices to Protect Temporary Workers

Protecting Temporary Workers

NIOSH and the OSHA jointly published a document that outlines best practices for temporary workers. These recommendations are specific to employers who use workers from staffing agencies and include practices for providing proper safety and health protections for these workers. Workers employed through staffing agencies are generally called “temporary” or “supplied” workers and the staffing

agency and staffing agency’s client, or host employer, are jointly responsible for providing a safe working environment. NIOSH and OSHA provide recommendations that can be applied through effective communication and collaboration between all parties.

Read more:

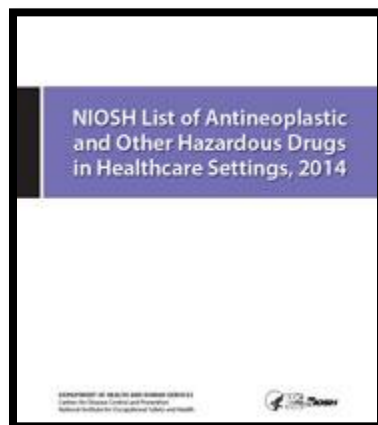
<http://www.cdc.gov/niosh/updates/upd-08-25-2014.html>

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NIOSH

NIOSH Releases Updated Hazardous Drug List

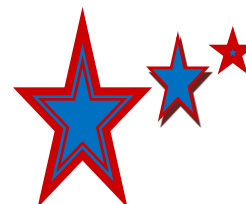
A new document, NIOSH List of Antineoplastic and other Hazardous Drugs in Healthcare Settings, 2014, has been released. This is the latest version of the hazardous drug list first published by NIOSH in 2004 as an appendix to the document, NIOSH Alert: Preventing Occupational Exposure to Antineoplastic and Other Hazardous Drugs in Health Care Settings. Hazardous drugs on the list include those used for cancer chemotherapy, antiviral drugs, hormones, some bioengineered drugs, and other miscellaneous drugs.



Read more:

<http://www.cdc.gov/niosh/enews/enewsV12N6.html#a>

USAPHC



How to become a DOEHRS-IH Super Star

- ✓ Do feel like you use DOEHRS-IH more than other program offices?
- ✓ Do you feel unnoticed?
- ✓ Do you feel like you have done great IH things with DOEHRS-IH?
- ✓ Do you wear a unitard and cape under your clothes? (Don't answer this question please)

Email the [Industrial Hygiene Training Coordinator](#) a brief synopsis about a new idea, a faster way, or a milestone you just met. Your Program Office just may be nominated as the monthly DOEHRS-IH **Super Star**.

Training

Embrace the Power of Mobile E-Learning Now

As the popularity of Bring Your Own Device (BYOD) programs increases and the Millennial generation continues flooding the workforce, the need for mobile-friendly training is at an all-time high. In fact, in an article from Business 2 Community, Tom Pick noted in 2013 that there were more than "143 million smartphones in use in the U.S., and 71 million tablets." In another recent article, "The Top Trends in Mobile Learning for 2014" from elearningindustry.com, it was reported that

66% of surveyed office workers expect to be allowed to use any device at work.



Read more:

<http://ohsonline.com/articles/2014/10/06/embrace-the-power-of-mobile-elearning-now.aspx?admgarea=news>

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On the Web:

<http://phc.amedd.army.mil/topics/workplacehealth/ih/Pages/default.aspx>



USAPHC Training

Check out the USAPHC training website regularly. Many courses will become self-enrollment courses. Registration and course activation will begin in Blackboard from September 1- November 30, 2014.

To register, visit the Blackboard Learn website <http://aiph-dohs.ellc.learn.army.mil>, log-in (use the AIPH-DOHS URL), click on the **Courses** tab (top left) and then under the **Course Catalog** tab choose the **AIPH-DOHS Courses** folder (top right). Under the **Browse Course Catalog** tab, type in a keyword to search for the course of interest. Hover the mouse cursor over the course name and a grey drop down will appear. Select **Enroll** and you have completed the self-enrollment process.

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